

CLAIM LISTING

1. (Currently Amended): A biodegradable implant comprising:
a rigid matrix component containing at least one biodegradable polymer or copolymer,
and
a plasticizer dispersed within the rigid matrix to produce an implant that is flexible and rigid prior to insertion into an organ system,
which plasticizer substantially exits from the implant after coming into contact with tissue fluids of an organ system in such a manner that
the bending resistance of the implant prior to the insertion of the implant into the organ system is substantially lower than after its insertion into the organ system,
and the implant has a porous surface and a substantially nonporous core.

2. (Currently Amended): A biodegradable implant comprising:
a rigid matrix component containing at least one biodegradable polymer or copolymer,
and
a plasticizer dispersed within the rigid matrix to produce an implant that is flexible and rigid prior to insertion into an organ system,
which plasticizer substantially comprises N-methyl-2-pyrrolidone (NMP),
and which plasticizer substantially exits from the implant after coming into contact with tissue fluids of an organ system in such a manner that
the bending resistance of the implant prior to the insertion of the implant into an organ system is substantially lower than after its insertion into the organ system,
and the implant has a porous surface and a substantially nonporous core.

3. (Original): An implant as claimed in claim 1, wherein the matrix component comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvalerates, polydioxanones, polyorthoesters, polycarbonates, polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates, poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol, polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes,

polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

4. (Original): An implant as claimed in claim 1, wherein at least the surface of the implant is porous.

5. (Original): An implant as claimed in claim 1, wherein active agents, such as antibiotics, pharmaceutical products, growth hormones, styptic agents, chemotherapy agents, are arranged in the implant.

6. (Original): An implant as claimed in claim 1, wherein the plasticizer is added to the matrix material at the latest at the forming stage of the implant.

7. (Original): An implant as claimed in claim 1, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

8. (Original): An implant as claimed in claim 1, wherein the implant is a membrane used in guided tissue regeneration.

9. (Currently Amended): A method for manufacturing a biodegradable implant comprising the steps of:

selecting at least one biodegradable polymer or copolymer of a rigid matrix component of the implant,

adding a plasticizer to the matrix component to produce an implant that is flexible and rigid prior to insertion into an organ system,

which plasticizer is dispersed within the rigid matrix and substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that the rigidity of the implant increases substantially after the implant is inserted into the organ system, and

forming the flexible implant from the mixture of said matrix component and plasticizer, such that the implant has a porous surface and a substantially nonporous core.

10. (Currently Amended): A method for manufacturing a biodegradable implant comprising the steps of:

selecting at least one biodegradable polymer or copolymer of a rigid matrix component of the implant,

forming the implant from said matrix component, and

adding a plasticizer to the matrix component to produce an implant that is flexible and rigid prior to insertion into an organ system,

which plasticizer is dispersed within the rigid matrix and substantially exits from the implant after coming into contact with tissue fluids of the organ system in such a manner that the rigidity of the implant increases substantially after the implant is inserted into the organ system,

such that the implant has a porous surface and a substantially nonporous core.

11. (Original): A method as claimed in claim 9, wherein the plasticizer comprises N-methyl-2-pyrrolidone (NMP).

12. (Original): A method as claimed in claim 9, wherein the plasticizer is added to the implant just before the implant is inserted into the organ system.

13. (Original): A method as claimed in claim 9, wherein the matrix component comprises at least one of the following polymers or copolymers that is selected from the following group: polyglycolide, polylactides, polycaprolactones, polytrimethylenecarbonates, polyhydroxybutyrates, polyhydroxyvalerates, polydioxanones, polyorthoesters, polycarbonates, polytyrosinecarbonates, polyorthocarbonates, polyalkylene oxalates, polyalkylene succinates, poly(malic acid), poly(maleic anhydride), polypeptides, polydepsipeptides, polyvinylalcohol, polyesteramides, polyamides, polyanhydrides, polyurethanes, polyphosphazenes, polycyanoacrylates, polyfumarates, poly(amino acids), modified polysaccharides, modified proteins and copolymers thereof.

14. (Original): A method as claimed in claim 9, wherein the implant is porous.

15. (Original): A method as claimed in claim 9, wherein active agents are added to the implant.

16. (Original): A method as claimed in claim 15, wherein the active agents are first mixed into the plasticizer and then added together with the plasticizer to the matrix component.

17. (Original): A method as claimed in claim 9, wherein the implant is a membrane used in guided tissue regeneration.